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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

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25 JUN 1986

MEMORANDUM

SUBJECT: Ordot Landfill Sample Plan

FROM: Terry L. Stumph, Chief
Environmental Services Branch, OPM

TO: Keith A. Takata, Chief
Superfund Programs Branch, TWMD

The subject document has been reviewed by Laura Tom and Kent Kitchingman. Kent Kitchingman reviewed only the sections of the sample plan concerning air monitoring. The following comments and questions arose from their review and were discussed on Thursday, June 19, 1986, with the preparer and other reviewers.

1. The RSCC and sample plan and QAPjP reviewers are now located in the Quality Assurance Management Section, Environmental Services Branch, OPM. The RSCC contact is Stewart Simpson, and his telephone number is 974-0925.

2. The site history and background should briefly indicate the air problems and thus the need for air monitoring.

   Is "landfill gas" present? If so, how will the presence of high methane concentrations affect the measurement of lower levels of toxic air contaminants? Is there a possibility of landfill gas migration off the site?

   Are subsurface gas samples to be collected?

3. Sections 4.3 and 4.4: Are single sample locations adequate to characterize surface and groundwater?

4. Part V: There appears to be some confusion over the definition and frequency required of field and travel blanks. Field blanks are used as a check on the laboratory. One field blank, i.e., organic-free water is transferred to sample containers in the field, is required per day per matrix per laboratory. "Travel" blanks are a check for volatile organic cross contamination. One travel blank is required per day per shipping container.

   Air samples must also have blanks. A discussion on the travel blanks must be incorporated into the text.

5. Part V: Can the spring sample and leachate pond sample be grouped characteristically with the leachate stream samples as the same type of sample? Is there enough variability between sample type to necessitate additional duplicates?

6. What approach will be used to select the locations for air sample collection, i.e., how will the collected data be used? What are the data quality objectives? What are the numerical estimates provided based on?

   If part of the landfill is at higher elevation than the surroundings, some sampling should occur during the early morning periods when downslope air drainage is anticipated. This may be the period of peak concentrations of landfill air contaminants.

   In addition, the compounds of interest must be specified in order to design the sample collection system. The absorption and desorption efficiencies and breakthrough volumes on each sorbent must be considered for each compound of interest. For example, an extensive clean-up procedure is required for tenax and polar compounds are difficult to desorb from charcoal.

7. The sample plan does not specify the organic volatiles of interest. The request for analysis should list the compounds of interest. The QAPjP should have methods, detection limits and quality control procedures (including sample recovery efficiency for each compound of interest and associated holding times) to be employed by the laboratory.

   The request for analysis in the sample plan should also specify this information or provide a specific reference to the QAPjP.

8. The request for analysis should be separated to one page per day per matrix. This simplifies scheduling and the check on the field quality control samples.

9. The CLP provides all containers for RAS, thus sections of SOP 5622006 are not applicable and the sample plan should indicate this.

   For the air SAS; all logistics of the SAS CLP support request must be described in detail, including preparation of tubes. SMO needs the information for preparation of the solicitation. This information should be included preferably in the QAPjP.

10. Re: Table 6-2

    The text and Table 6-2 are inconsistent regarding the number of containers required for the HSL extractables. A total of four (4) one-liter bottles are required for HSL extractables, i.e., two for the semi-volatiles and two for the pesticides.

The text (pg. VI-8) and the table are inconsistent regarding the preservation of the leachate/surface water samples for inorganics.

Table 6-2 indicates groundwater samples are to be collected for dissolved inorganics. Why? The text does not discuss the need/reason for filtration. In addition, SOP 5617007 is inadequate. The SOP needs to be expanded to describe explicitly the procedures that will be utilized, including the vacuum source.

Table 6-2 should be expanded to include air samples.

The maximum holding time for mercury (Hg) samples that have been preserved with nitric acid is 28 days.

The 5 day holding time for extraction of HSL semi-volatile and pesticide samples is based on the assumption that the time lapse between sample collection and receipt by the laboratory is only two days. Is this a realistic time frame for samples collected in Guam?

11. Sample transportation arrangements needs to be expanded. Pilots on common carriers can refuse to take environmental samples. Describe the arrangements that have been made and the contingency plans that have been developed.

    What mechanisms will be made to ensure that sample temperature is maintained at 4°C, especially if transport times exceed 24 hours?

12. Section VI pg. 5: Region 9 does not use sample tags.

13. The description of surface water/leachate sample collection procedure needs to be expanded. Will each sample container be individually submerged or will a larger container be used, e.g., a bucket, and aliquoted into sample containers? Whichever technique is used, how will homogeneity or representativeness be established?

    The description of ground water sample collection procedures needs to be expanded. Step by step procedures, including the technique used to fill bottles and collect duplicates need to be described.

14. Metal samples preserved with nitric acid do not need to be maintained at 4°C.

15. Table 6-6 is missing.

16. The text (pg VI-11) indicates a discussion of decontamination in section 6.7; however, section 6.7 does not include this discussion.

17. In reviewing some of the SOPs, a few items were identified that need to be addressed:

    SOP 5617003 - The probe should be wiped dry prior to submersion in each aliquot.
    Is the field calibration prior to each measurement, daily, or per trip?
    SOP 5617004 - The accuracy of the thermometer is not specified.

18. When SOPs are referenced, the text of the sample plan should indicate all changes to the SOP that are relevant.

If there are any questions, please contact Laura at 4-8595 or Kent at 4-0924.

cc: Tom Mix (T-4-3)
Kathleen Shimmin (T-3)